Department of Kinesiology
Course Syllabus
Spring 2011

1. **Course Number:** KINE 7700
   Course Title: Advanced Physiology of Exercise II
   Credit Hours: 3 semester hours (Lecture 3)
   Prerequisite: KINE 3680 or equivalent or departmental approval.
   Corequisite: None

2. **Course Instructor:** L. Bruce Gladden.
   Meeting Place & Time: Coliseum 2092 at 2:00 – 3:15 pm MWF. NOTE that Fridays will only be used to make up missed classes.

3. Text: Brooks, George. A., Thomas. D. Fahey, and Kenneth. M. Baldwin (2005). Exercise Physiology: Human Bioenergetics and Its Applications (4th ed.). Boston: McGraw-Hill, ISBN 0-07-255642-0;
and
Powers, Scott K. and Edward T. Howley (2009). Exercise Physiology: Theory and Application to Fitness and Performance (7th ed.). Boston, MA: McGraw-Hill, ISBN 978-0-07-337647-9,
and
Course Hand-Outs on Blackboard.

4. Course Description: Skeletal muscle function, cardiovascular and respiratory responses to exercise, including regulation/control; physiological principles of aerobic/endurance training and resistance/strength training; temperature regulation during exercise (if we get that far).

This is a Graduate School course. Therefore, much material will be taken for granted as baseline knowledge. **If you feel that your background in the sciences and physiology is less than you would prefer, it is your responsibility to work even harder to compensate for any deficiencies you may have.** The course format will be lecture plus question and answer. Please ask questions! I will ask questions of you.

It is imperative that you come to class prepared to discuss the topic of the day. In order to derive optimal benefits from our discussions, previous knowledge of the topic is required. Therefore, all students are expected to read all assignments prior to class, and to review material from previous class meetings. You will be asked to provide evidence that you are already familiar with the readings.

5. Course Objectives: Upon completion of this course, students will understand:

1. Skeletal muscle function during exercise;
2. Cardiovascular responses to exercise including regulation/control;
3. Respiratory responses to exercise including regulation/control;
4. Physiological principles of aerobic/endurance training and its results;
5. Physiological principles of resistance/strength training and its results;
6. Temperature regulation during exercise (if we get that far).

6. Course Content:

Week 1-2: Skeletal Muscle and Exercise – Powers & Howley Chapters 7 and 8.

Week 3: Cardiovascular System and Exercise – Powers & Howley Chapter 9; Brooks et al. Chapters 14, 15, and 16. Cardiac Cycle through preload.

Weeks 4: Cardiovascular System and Exercise – *Powers & Howley Chapter 9; Brooks et al. Chapters 14, 15, and 16.*

Weeks 4-7: Respiratory System and Exercise – *Powers & Howley Chapter 10; Brooks et al. Chapters 11, 12, and 13. "Control of breathing during exercise" by H.V. Forster and L.G. Pan. In: The Lung: Scientific Foundations, ed. By R.G. Crystal, J.B. West et al., Lippincott-Raven Publishers, Philadelphia, 1997.*

Weeks 8-10: Aerobic Training – *Powers & Howley Chapter 13; "The recommended quantity and quality of exercise for developing and maintaining cardiorespiratory and muscular fitness in healthy adults," American College of Sports Medicine Position Stand, Medicine and Science in Sports and Exercise 30:975-991, 1998; "Linear increase in aerobic power induced by a strenuous program of endurance exercise," by Hickson, Bomze and Holloszy, Journal of Applied Physiology 42:372-376, 1977; "Influence of intense endurance training on aerobic power of competitive distance runners," by Mikesell and Dudley, Medicine and Science in Sports and Exercise 16:371-375, 1984.*

Weeks 11-13: Strength Training – *Brooks et al. Chapters 19 and 20; "Progression models in resistance training for healthy adults," American College of Sports Medicine Position Stand, Medicine and Science in Sports and Exercise 34:364-380, 2002.*

Weeks 14-15: Temperature Regulation – *Powers & Howley Chapter 12; Brooks et al. Chapter 22.*

7. Course Requirements/Evaluation:

A. There will be two large examinations, a MIDTERM EXAM and a FINAL EXAM, each about 2.5 hours in length and each worth 100 points, for a total of 200 points. **These exams will be given outside of scheduled class time.**
B. There will be two smaller exams (QUIZ #1 and QUIZ #2), each about 75 minutes in length. Each QUIZ will be worth 50 points for a total of 100 points.
C. There will be four surprise quizzes, each about 10-15 minutes in length. Each Surprise Quiz will be worth 10 points for a total of 40 points.

Item			Final Letter Grade		
Scheduled Quizzes	-	29.4%	≥ 88	=	A
Surprise Quizzes	-	11.8%	≥ 79 but < 88	=	B
Mid-term Exam	-	29.4%	≥ 70 but < 79	=	C
Final Exam	-	29.4%	≥ 60 but < 70	=	D
			< 60	=	F

Curving – DO NOT request that grades be adjusted (curved); the grading scheme above is based on 30+ years of teaching this class.

Extra Credit – There is no extra credit in this class; there is only credit. Should "extra" credit opportunities arise, they will be offered to all students in the class.

8. Class Policy Statements:

Participation - It is expected that students taking a graduate class will attend every class meeting and will actively participate in class discussions. Please refer to the current edition of the Tiger Cub (http://www.auburn.edu/tigercub) for the definition of excused absences. Students are expected to show evidence of thorough reading of assigned textbook chapters and supplemental readings. Students are responsible for initiating arrangements for missed work.

Unannounced Quizzes – There will be unannounced quizzes in this class.

Accommodations - Students who need special accommodations in class, as provided

for by the American Disabilities Act, should arrange a confidential meeting with the instructor during office hours the first week of classes - or as soon as possible if accommodations are needed immediately. If you have a conflict with the office hours, an alternate time can be arranged. To set up this meeting, please contact me by E-mail. You must bring a copy of your Accommodation Memo and an Instructor Verification Form to the meeting. If you do not have these forms but need accommodations, make an appointment with the Program for Students with Disabilities, 1244 Haley Center, 844-2096.

Honesty Code – The University Academic Honesty Code and the Tiger Cub Rules and Regulations pertaining to Cheating will apply to this class.

Professionalism – As faculty, staff, and students interact in educational settings, they are expected to demonstrate professional behaviors as defined in the College of Education's conceptual framework. These professional commitments or dispositions are as follows: 1) engage in responsible and ethical practices, 2) contribute to collaborative learning communities, 3) demonstrate a commitment to diversity, and 4) model and nurture intellectual vitality.

2011 SPRING TERM

CLASS DAYS – KINE 7700 Advanced Physiology of Exercise II

1 M Jan 10
2 W Jan 12
M Jan 17 – Martin Luther King, Jr. Holiday – NO CLASS.
3 W Jan 19
4 M Jan 24
5 W Jan 26
6 M Jan 31
7 W Feb 2
Th-Sat – Feb 3-5 – SEACSM Meeting in Greenville, SC
8 M Feb 7
9 W Feb 9 – QUIZ #1
M Feb 14 – Gladden out of town.
W Feb 16 – Gladden out of town.
M Feb 21 – Gladden out of town.
10 W Feb 23
11 F Feb 25
12 M Feb 28
Mar 1 – Mid-Semester
13 W Mar 2
14 F Mar 4
15 M Mar 7
W-Th – Mar 9-10 – MIDTERM EXAM
Sat-Sun – Mar 12-20 – Spring Break – NO CLASSES.

16 M Mar 21
17 W Mar 23
18 F Mar 25
19 M Mar 28
20 W Mar 30
21 F Apr 1
22 M Apr 4
23 W Apr 6 – QUIZ #2
24 F Apr 8
Sat-W – Apr 9-13 – Experimental Biology Meeting in Washington, DC
25 M Apr 11
26 W Apr 13
27 M Apr 18
28 W Apr 20
29 M Apr 25
30 W Apr 27 – Last Class Day
Th-F – Apr 28-29 – Study/Reading Days
M-F – May 2-6 – Final Exam Days
F May 6 – 4:00 – 6:30 pm, KINE 7700 **Scheduled** Final Exam Time
M May 9 – COMMENCEMENT

TENTATIVE TESTING SCHEDULE

W Feb 9 **QUIZ #1** – after 8 classes.
W-Th Mar 9-10 **MIDTERM** – 2.5 hour time slot – after 15 classes.
W Apr 6 **QUIZ #2** – after 22 classes.
M-F May 2-6 **FINAL EXAM** – at convenient times – after 30 classes.